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EXAMINER				
KHARE, ATUL P				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/561,708

Applicant(s)

SPICKEMANN ET AL.

Examiner

ATUL KHARE

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,12,13,15-19,21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,12,13,15-19,21 and 22 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed 28 April 2009 has been entered and fully considered.
2. Claims 1-7, 9, 12, 13, 15-19, 21, and 22 are currently pending.
3. Claims 8, 10, 11, 14, and 20 have been cancelled.
4. No new matter has been entered.

Claim Objections

5. Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 7 requires the exact same weight percent range for calcium sulfate dihydrate to calcium sulfate hemihydrate as claim 6, from which claim 7 depends.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-7, 9, 13, 15, 16, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by DELEUIL (US 4,221,599).
8. As to claim 1, DELEUIL teaches a method for producing a multilayer cementitious product such as modular construction building units made from

compositions of gypsum and plaster (column 1 lines 12-20). A product made by plaster and gypsum comprises plaster, gypsum, and water (column 2 lines 55-57). The plaster may be made from a semihydrate (hemihydrate) calcium sulphate (column 4 lines 33-35). Therefore, the scope of the prior art in this case encompasses applicant's limitation of first mixing stucco with water, and subsequently adding uncalcined gypsum to the mixture. The mixture of plaster, gypsum, and water is charged into a mold cavity, and the resultant shaped article, or modular construction unit, is then removed after a short period of time (column 2 lines 55-68). The claimed range for specific surface area of the DSG particles is encompassed by that which is stated in the prior art: $200\text{-}6,000\text{ cm}^2/\text{g}$ (or $0.02\text{ - }0.6\text{ m}^2/\text{g}$ - see column 4 lines 24-27). The claimed range for particle size distribution is met by that which is stated in the prior art: 20-100 microns (column 4 lines 52-55). DELEUIL teaches the utilization of a synthetic gypsum originating from the neutralization of acidic industrial effluents by lime (column 3 lines 41-46). The prior art also states that these acidic effluents can be of diverse origin. At [0003] of the applicant's disclosure, applicant describes DSG, the most commonly used form of gypsum, as being formed by the flue-gas desulphurization process used at a number of coal burning power stations to remove sulfur dioxide (an acidic component) from the effluent. Therefore, the synthetic gypsum described in the prior art meets the required use of DSG as described by applicant.

9. As to claims 2 and 3, DELEUIL teaches a specific surface area of $200\text{ - }6,000\text{ cm}^2/\text{g}$ (or $0.02\text{ - }0.6\text{ m}^2/\text{g}$ - see column 4 lines 24-27).

10. As to claim 4, DELEUIL teaches a method of drying gypsum prior to adding it to the slurry of calcium hemihydrate and water (column 4 lines 59-66). More specifically, the prior art indicates that a "phosphoplaster" can be created by drying a phosphogypsum (uncalcined gypsum) for use in the mixture of plaster, gypsum, and water to make a plaster/gypsum product.

11. As to claim 5, DELEUIL teaches a product made by plaster and gypsum comprising plaster, gypsum, and water (column 2 lines 55-57). The prior art states that the plaster may be made from a semihydrate (hemihydrate) calcium sulphate (column 4 lines 33-35). Therefore, the scope of the prior art in this case encompasses applicant's limitation of first mixing stucco with water, and subsequently adding gypsum to the mixture.

12. As to claims 6, 7, and 9, DELEUIL teaches a range of 30-99 weight percent of plaster (hemihydrate) to gypsum (dihydrate), which meets the claim (column 5 lines 39-42).

13. As to claim 13, DELEUIL teaches the utilization of a synthetic gypsum originating from the neutralization of acidic industrial effluents by lime (column 3 lines 41-46). The prior art also states that these acidic effluents can be of diverse origin. At [0003] of the applicant's disclosure, applicant describes DSG, the most commonly used form of gypsum, as being formed by the flue-gas desulphurization process used at a number of coal burning power stations to remove sulfur dioxide (an acidic component) from the effluent. Therefore, the synthetic gypsum described in the prior art meets the required use of DSG as described by applicant. DELEUIL teaches a specific surface area of 200

- 6,000 cm²/g (or 0.02 - 0.6 m²/g) (column 4 lines 24-27). DELEUIL teaches a particle size distribution of 20-100 microns (column 4 lines 52-5).

14. As to claims 15 and 16, DELEUIL teaches 30-99 weight percent of plaster (hemihydrate, stucco) to gypsum (dihydrate, DSG), which meets the claim (column 5 lines 39-42).

15. As to claim 21, please see the rejection of claim 1 above.

16. As to claim 22, please see the rejection of claims 1 and 13 above.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over DELEUIL (US 4,221,599).

20. As to claims 17 and 18, applicant states at paragraph 0008 of the disclosure that it is known in the art that in the production of plasterboard, it is possible to enhance certain mechanical properties such as sound absorbing qualities by changing the percentage of natural gypsum. DELEUIL teaches that a weight percent of 30-99 of plaster (stucco) to gypsum is used (column 5 lines 39-42). DELEUIL does not appear to explicitly disclose a weight percent of gypsum to stucco according to claim 17 between 10 - 20 weight percent, or claim 18 around 20 percent. However, according to MPEP 2144.05, it is not inventive to discover the optimum ranges by routine experimentation. Therefore, the ranges of claims 17 and 18 are considered to be *prima facie* obvious because one of ordinary skill in the art would want to optimize the teachings of DELEUIL in order to improve the properties of the composition such as water repellency (column 2 lines 16 - 34 of the prior art).

21. Claims 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over DELEUIL (US 4,221,599) as applied to claims 1-7, 9, 13, 15, 16, 21, and 22 above, and further in view of MARCOUX ET AL. (US 5,980,627).

22. As to claims 12 and 19, DELEUIL does not appear to explicitly disclose crushing existing gypsum wallboard to add to the slurry. However, MARCOUX teaches in a method for the production of commercially useful materials for waste gypsum board grinding waste gypsum boards to make particles having a suitable size and treating to make calcium sulfate dihydrate and calcium sulfate hemihydrate (column 1 lines 61-67 to column 2 lines 1-27).

At the time of the invention, it would have been *prima facie* obvious to a person having ordinary skill in the art to use the method of MARCOUX to add to the gypsum products required in the method of DELEUIL because of the need in the art to recycle waste gypsum boards so that their materials can be reused (column 1 lines 61-67 to column 2 lines 1-27 of MARCOUX).

Response to Arguments

23. In response to attorney's amendment and arguments that the current claims specify particle sizes that are large when compared with the cited prior art, the prior art cites a specific surface area of between 0.02 - 0.6 m²/g, and a particle size distribution of 20-100 microns, which respectively fully encompasses and lies within the ranges that are claimed by applicant. These ranges would therefore create an identical product to that which is claimed, having the required acoustic performance as described at page 13 of applicant's arguments.

24. In response to applicant's argument that DELEUIL is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant

was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, DELEUIL teaches a method for making modular construction building units, which include wallboard. See also evidentiary reference ROTH ET AL. (US 5,362,471), which creates gypsum flakes by a method commonly used by wallboard manufacturers in which the gypsum is compressed into a thin sheet (abstract). There is nothing of evidence to suggest that the production of wallboard by compression is unnecessary and undesirable.

Conclusion

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ATUL KHARE whose telephone number is (571)270-7608. The examiner can normally be reached on Monday-Thursday 7:30 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ATUL KHARE/
Examiner, Art Unit 1791

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791